

ABSTRACT

A load-lock and dry vacuum pump assembly includes a load-lock having a load-lock housing, the load-lock housing includes a mating system having a flange-like cylinder and a cylinder concentrically located relative to said flange-like cylinder; a dry vacuum pump that includes a shaft, a rotor, a first concentric cylinder and a second concentric cylinder extending outwardly from the rotor, and is integrally connected with the mating system, the first and second dry vacuum pump concentric cylinders, the flange-like cylinder, and the cylinder concentrically located relative to said flange being axially arranged with respect to the shaft; and a molecular drag compression stage formed by flanges having helical structures selectively provided on the first and second concentric cylinders, the flange-like cylinder, and the cylinder concentrically located relative to the flange. The first and second concentric cylinders spin relative to the flange-like cylinder and the cylinder concentrically located relative to the flange.

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